Part II: Outcome Evaluation of Maine's Statewide Juvenile Drug Treatment Court Program

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Introduction[1]

Adolescence is a period of growth, exploration – and for some teens – the development of drug abuse and addiction. Among 30,000 teens polled by a national survey in 2002, 4.2% of 12 to13 year olds reported using an illicit drug in the past month along with 11.2% of 14 to 15 year olds, and one out of five teens aged sixteen and over (Volkow, 2004). Data gathered by the Substance Abuse and Mental Health Services Administration show that nearly two-thirds of all patients entering treatment for drug abuse started abusing drugs during their teens.

Adolescents involved in the juvenile justice system are significantly more prone to be drug involved than non-offenders. Approximately four out of every five arrestees in state juvenile justice systems were under the influence of alcohol or drugs while committing their crimes, tested positive for drugs, were arrested for committing an alcohol or drug offense, or admitted having substance abuse and addiction problems. Overall, alcohol and drug abuse is implicated in 64% of violent offenses, 72% of property offenses and 81% of assaults, vandalism, and charges of disorderly conduct (CASA, 2004). The CASA report and others have called for a complete overhaul of the juvenile justice system to ensure that each adolescent receives a comprehensive assessment of their need for substance abuse treatment services.

Adolescents involved in the juvenile justice system are routinely diverted to community-based programs operated by the juvenile courts and various outside agencies. The juvenile drug treatment court is one such program that promises to reduce juvenile crime by decreasing adolescent substance abuse. This drug diversion program provides community-based services to juvenile offenders and their families requiring participation in substance abuse treatment and weekly court appearances before a designated program judge. Today, over 16,000 adolescents have enrolled in more than 340 juvenile drug court programs nationwide and approximately 4,500 adolescents (29%) have successfully completed these programs through graduation (Cooper, 2004).

Maine is one of the few pioneer states to implement a state-wide system of drug courts for both juvenile and adult offenders. Currently, Maine has six juvenile drug courts operating in seven counties that serve a combined population of 883,410 people – or approximately 70% of the state's population. Juvenile drug court programs in Maine became operational when the first adolescent was admitted to the Bangor juvenile drug court on January 26, 2000. Addicted to opiates and expected to stay in trouble, this first drug court participant serves as an exemplar for not only successfully completing the program but remaining crime free as well.

[1] Maine's Office of Substance Abuse in consultation with Maine's Judicial Department, contracted Donald F. Anspach and Andrew S. Ferguson from the University of Southern Maine's, Department of Sociology to evaluate the program. The Honorable Keith Powers from Maine's Judicial Department, Linda Frazier of Maine's Office of Substance Abuse, and Ron Anton and Jane Clark from Day One, Inc. have served as the primary juvenile drug court officials involved in the evaluation.

This paper presents findings of a study assessing Maine's Juvenile Drug Treatment Court Program in terms of graduation, post-program recidivism and estimates the correctional cost/savings associated with those outcomes. Overall findings indicate that Maine's juvenile drug court program is a success across each of these dimensions. In sum:

- Program completion rates for Maine's juvenile drug court program (39%) are higher than national averages (29%);
- Fewer drug court participants recidivated during a 12 month post-program follow-up than a matched control group of juvenile offenders traditionally adjudicated;
- Drug court graduates were found to be the least likely to re-offend overall;
- The juvenile drug court program has generated a net correctional savings of $29,026.00 and potential reductions in future costs for successful participants.

The remainder of the report documents those findings and is organized as follows: The next section describes the research techniques employed to assess program outcomes. The third section examines factors related to successful program completion or graduation. This is followed by an assessment of post-program recidivism outcomes as measured by re-arrest. The fifth and final section provides an estimate of correctional cost/savings resulting from the program's operation.

Methods

To assess the efficacy of Maine's juvenile drug court program, the research compared differences in recidivism rates between Maine's juvenile drug court participants and similarly situated juveniles in Maine who were under traditional probationary supervision. That is, the research incorporates a quasi-experimental, matched-pair design. Between February, 2000 and September, 2003 a total of 182 discharged participants had sufficient exposure, or *"time at risk"* to be included in the 12-month follow-up. For example, a participant discharged on January 1, 2004 was tracked for 12 months until December 31, 2004 to identify whether any new criminal activity had occurred.

Drug court participants and their non-drug court counterparts were matched across a number of variables. The non-drug court comparison group was constructed from information gathered from Maine's Department of Corrections and the Juvenile Treatment Network (Day One). The Juvenile Treatment Network database contained the bulk of information used to match offenders. This information included substance abuse screening results and general demographic information. The Yo-LSI measure assessing an offender's risk of re-offending was obtained from the Maine Department of Corrections, Division of Juvenile Services.

Comparison subjects were adjudicated juvenile offenders in Maine with substance abuse problems but neither participated in, nor were referred to, the juvenile drug court program. These non-drug court offenders were matched with drug court participants

across a variety of demographic characteristics, substance use history/screening results and criminal risk factors including: date of entry, age, race, gender, county of residence, ASAM score, JASAE drug and alcohol scores, Yo-LSI measure of criminal risk, living situation and school status.

Arrest data was obtained from two sources: 1) Maine's Department of Corrections, Division of Juvenile Services provided arrest information on adolescents who were still under their supervision; and, 2) Maine's Department of Public Safety provided arrest data for those adolescents who turned 18 and matriculated into the adult criminal justice system. Recidivism data presented in this paper reflects all post-program felony and misdemeanor arrests in Maine for drug court participants and a matched group of juvenile offenders traditionally adjudicated.

The amount of exposure or "time at risk" during which re-arrest activity was measured for the 182 non-drug court juvenile offenders equaled the number of days of exposure time for the drug court participant with whom they were matched. It is anticipated that this procedure of matching pairs of offenders will reduce potential sources of selection bias that typically occur in studies of this kind.

Program Completion Outcomes: Graduation

When participants graduate from drug court, they have successfully completed a very intensive and challenging program. For approximately fifty-two weeks, these participants will have complied with all the performance expectations of the program including no new criminal conduct, abstaining from alcohol and drug use, attending sessions of substance abuse treatment and appearing at weekly status hearings before the designated program judge. Unfortunately, the majority of juveniles fail to complete these programs nationally. However, Maine's Juvenile Drug Court participants have been more successful. The overall rate of successful program completion for this sample of drug court participants in Maine is thirty-five percent (35%)[2] compared to the national average (29%).

To identify the most salient factors differentiating those who successfully completed the drug court program from those who were expelled requires the use of multi-variate statistical techniques. To "predict" the overall odds of successful program completion while simultaneously controlling for a number of "independent" or explanatory variables, we utilized step-wise logistic regression techniques.[3] This technique allows the research to test for the combined effects of variations in participant characteristics, drug testing results, attendance at treatment, sanctions and incentives, and participation in ancillary services on the overall odds of successful program completion[4].

Table 1 presents results of the step-wise logistic regression model for the odds of successful program completion. The analysis indicates that four factors (one participant characteristic and three program related variables) are significant predictors of graduation outcomes. The first variable relates to the abstinence requirement of the drug court

[2] As of September 1, 2004, the rate of successful program completion for the overall sample in Maine's Juvenile Drug Treatment Court is 39%. See Anspach and Ferguson (2004), Part 1: Process Evaluation of Maine's Juvenile Drug Treatment Court Program.
[3] See Appendix A for a bi-variate presentation of factors relating to successful program completion.
[4] An insufficient number of graduates prohibits a site by site examination.

program. Here, as positive drug use increases, the likelihood of successful program completion decreases. Second, participants who were screened as "high risk" on the Youthful Level of Service Inventory (Yo-LSI) were found to be three times less likely to graduate than participants who were screened as either having a "moderate" or "low" risk of re-offending. (This is calculated by taking the inverse of the odds ratio *Exp B.*) The third variable of significance pertains to participation in family treatment. Here, the more family treatment sessions a participant attended increases the odds of successful program completion. Lastly, and more interesting, is the variable pertaining to weekly drug testing. This variable suggests that increases in the frequency of weekly drug testing has a negative effect on graduation outcomes. That is, as the frequency of weekly drug testing increases, the odds of successful program completion decreases. Because positive drug use and the frequency of drug testing are both inter-correlated in this model, we can hypothesize that increases in the frequency of drug testing increases the likelihood of testing positive which, in turn, decrease the odds of successful program completion.

Table 1: Odds Ratios for the Step-wise Logistic Regression on Graduation Outcomes for Maine's State-wide Juvenile Drug Treatment Court

Variables	*B*	*S.E.*	*Wald*	*Sig.*	*Exp(B)*
Positive Drug Tests	-4.698	1.066	19.431	.000	.009
Family Treatment	3.178	1.577	4.061	.044	23.987
High Risk	-1.146	.372	9.472	.002	.318
Weekly Drug Testing	-.834	.376	4.925	.026	.434
Constant	1.143	.434	6.946	.008	3.135

[a]Only the significant terms tested in the models are presented in order to conserve space.

Post-Program Recidivism Outcomes

The strongest test of criminal justice diversion programs is the extent they actually reduce crime and save money. Although research on adult drug court programs have shown reductions in criminal activity among program graduates and overall costs savings both in terms of prison time and criminal justice case processing (See generally Belenko, 1999, 2001; Wilson et. al. 2002; Harrel et. al. 2002; Rempel, 2003; and Finnegan, M.W. and Carey, 2003), it has been more difficult for researchers to draw meaningful conclusions about such outcomes for juvenile drug courts. Juvenile drug court programs are more recent than adult drug court programs, typically have had far fewer enrollments, and are strategically more difficult to research given the high degree of confidentiality, and in many cases inaccessibility, of juvenile court and treatment records. As a result of these problems, there have been relatively few evaluations of juvenile drug court programs nationally. Among the evaluations that have been conducted, few include analyses of post-program recidivism, incorporate an experimental design or utilize multivariate models to assess program outcomes. Nevertheless, these studies have been suggestive as they indicate that recidivism rates during post-program

follow-up periods are lowest for juveniles who graduate and highest among those who were expelled.[5]

Among the few studies that have compared recidivism rates of juvenile drug court participants with a comparison group, juvenile drug court participants, on the whole, are less likely to recidivate. For example, Latessa (2002) suggests a positive program effect for participants in Ohio's juvenile drug court programs demonstrating differential re-arrest rates of 19% between drug court participants and non-participants. In addition, five of the seven juvenile drug court evaluations listed by the American University report lower re-arrest rates for graduates than expelled participants or control groups of non-participants (Cooper, 2004). However, two studies report negative findings indicating that comparison subjects did not differ or had lower re-arrest rates than drug court participants (Clymer et. al. 2000 and Hartmann and Rhineberger, 2003). Nevertheless, these studies still pose methodological problems because the comparison groups were constructed from a pool of adolescent offenders who were either terminated from the program or referred to but not accepted into the program.[6]

The current study marks a ground-breaking development in research on juvenile drug courts. It compares twelve month post-program re-arrest rates of 182 juvenile drug court participants who either completed or were expelled from the program with a matched control group of 182 drug involved juvenile offenders who did not participate, nor were referred to, the juvenile drug court program.

Overall findings suggest positive program effects with fewer juvenile drug court participants being re-arrested than the control group and program graduates being the least likely to re-offend overall. Twelve-month post-program recidivism information is presented in Table 2.[7]

Findings in Table 2 indicate that fewer drug court participants (44%) had post-program arrests than the control group of juveniles who were traditionally adjudicated (52%) through Maine's juvenile courts and juvenile probation. More importantly, fewer graduates (34%) than expelled participants (49%) or the matched control group (52%) were arrested during the 12 month post-program follow-up. There are few overall differences (8%) in recidivism rates between drug court participants (44%) and juvenile offenders who were traditionally adjudicated (52%). Although these overall differences are not statistically significant they are in the expected direction with fewer drug court participants being arrested and program graduates least likely to recidivate than any other grouping. (Refer to Appendix B for a complete listing of offense charges.)

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5 Lacking a control group, the problem with this type of design is that both graduates and expelled participants are self-selecting groups.

6 It must be emphasized that when subjects are selected or self-selected into such groupings, there is a likelihood that the groups will differ on characteristics such as motivation, social support, intelligence or any number of uncontrolled factors that could influence differences in outcomes. In the current study, many factors that would confound the analysis with "selection bias" are "controlled" by the matched pair design. Essentially, each pair is similar with respect to known demographic and program characteristics.

7 T-tests were performed to determine whether differences in arrests rates were statistically significant. No statistically significant differences were found.

Table 2: Post-Program Recidivism Outcomes Control and Experimental

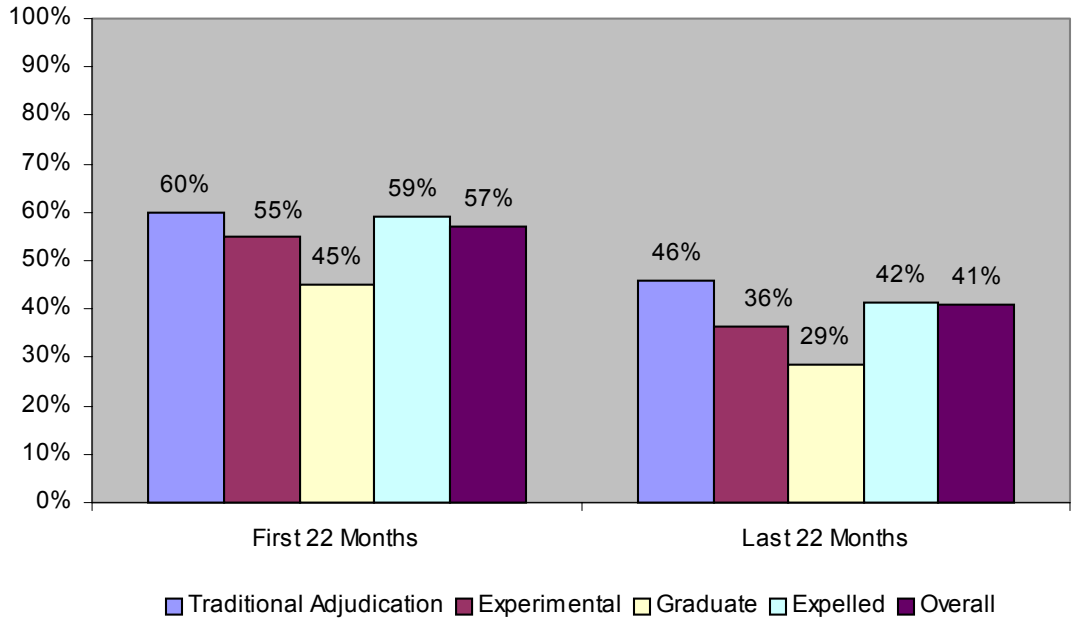
	Juveniles Adjudicated Through Maine's Courts and Probation		*Drug Court Participants*		*Drug Court Participants Who Graduated*		*Drug Court Participants Who Were Expelled*		*Total*	
Post Program Arrests (Felony or Misdemeanor)	N	%	N	%	N	%	N	%	N	%
Yes	94	52	80	44	22	34	58	49	174	48
No	88	48	102	56	42	66	60	51	190	52
Total	182	100	182	100	64	100	118	100	364	100

The study also examined whether there were changes in recidivism rates over time. Sufficient time has now elapsed (44 months) to measure the impact of the program on reducing recidivism over two time periods – the Implementation Phase (the first 22 months) and the Operations Phase (the last 22 months). The 182 drug court participants were divided into two cohorts – those discharged during the first 22 months of the program's implementation (n=75) phase and those discharged during the second 22 months of the program's operation (n=107). These findings are presented in Table 3 as well as a bar chart in Figure 1.

Table 3: Post-Program Recidivism Outcomes Measured Over Time

	Phase I Post-Program Arrests Implementation Phase (First 22 Months of Implementation)	*Phase II Post-Program Arrests Operations Phase (Last 22 Months of Operations)*
Juveniles Traditionally Adjudicated	60% (n=75)	46% (n=107)
Drug Court Participants	55% (n=75)	36% (n=107)
Drug Court Graduates	45% (n=22)	29% (n=42)
Expelled from Drug Court	59% (n=53)	42% (n=65)
Total	57% (n=150)	41% (n=214)

Figure 1: Post-Program Recidivism Outcomes Measured Over Time



Findings in Table 3 suggest that important reductions in re-arrests rates have occurred as the program has matured and entered into its "operations" phase. While the rate of recidivism for both drug court participants and non-participants has decreased over time, the difference in recidivism rates between drug court participants and non-participants has improved over time. And, recidivism rates for those graduating during the operations phase are the lowest (29%) among any other grouping. This suggests that improvements have been introduced to the program.

While these findings do not rise to the level of statistical significance, they do have substantive significance indicating an overall positive program effect on reductions in recidivism both overall as well as over time. However, statistically significant differences were found during the program's operation phase. Here, graduates were statistically less likely than traditionally adjudicated juvenile offenders to recidivate during the 12-month post-program follow-up ($t=1.964$, $p<.054$). These trends suggest that the program has become more effective in reducing recidivism over time as compared to traditional programs of juvenile supervision. However, it must be reiterated that it is not participation *per se* in drug court that accounts for these differences but engagement culminating in successful completion that is most significant.

The study also examined specific crimes committed by these juvenile offenders during the post-program period. Table 4 presents arrest information by the types of offense charges. Overall, there are few differences between drug court participants and non-drug court offenders across the various types of offense categories. The majority of juvenile offenders in the study were arrested for less serious misdemeanor offenses. However, fewer non-drug court offenders (31%) than drug court participants (40%) were arrested on felony charges. Drug court participants are less likely than the traditionally

adjudicated offenders to be arrested for alcohol or drug related offenses. And, there were few differences between drug court participants and non-participants in arrests for property crimes or offenses against the person. Differences that do exist are not statistically significant.

Table 4: Post-Program Offense Categories - Control and Experimental

	Total Arrested	*Felony Arrests*	*Drug/ Alcohol*	*Against Person*	*Property Offenses*	*Length of Time to First Arrest*
Traditionally	52%	31%	25%	22%	40%	6.8
Adjudicated Juvenile	(182)	(94)	(94)	(94)	(94)	4.9
Offenders						.03-12
Drug Court	44%	40%	21%	24%	40%	6.3
Participants	(182)	(80)	(80)	(80)	(80)	4.6
						.07-12
Graduated From	34%	41%	23%	36%	27%	8.2
Drug Court	(64)	(22)	(22)	(22)	(22)	4.7
						.63-12
Expelled from Drug	49%	40%	21%	19%	45%	5.6
Court	(118)	(58)	(58)	(58)	(58)	4.4
						.07-12

Factors Predicting Post-Program Recidivism Outcomes

Results from the preceding analyses suggest that drug court participants had lower recidivism rates than the comparison group of adolescent offenders under traditional probationary supervision. However, these observed differences are small suggesting that they may be attributable to offender characteristics (e.g.: prior criminal history). To isolate the effect of drug court participation on recidivism outcomes while controlling for these additional factors, we employed step-wise logistic regression techniques. This technique assesses what factors significantly predict the overall odds of post-program recidivism. The logistic regression model tests the combined effect of participant demographics, criminal history patterns and drug court participation on the overall odds of rearrest.

Referring to Table 6, results from the step-wise logistic regression analysis on the occurrence of post-program recidivism indicate that drug court participants are 1.8 times less likely to recidivate during the 12 month post-program follow-up than the control group of matched offenders. (This is calculated by taking the inverse of the odds ratio *Exp B*.) There are three other variables of significance. First, those who were screened as "high risk" on the Youthful Level of Service Inventory (Yo-LSI) were found to be two times more likely to recidivate than offenders who were screened as either having a "moderate" or "low" risk of re-offending. Offenders who were arrested while participating in the drug court program (or an equivalent time frame for the control group) were found to be nearly 47 times more likely to recidivate in the 12 month post-program follow-up. And, lastly, offenders who had an ASAM (American Society of

Addiction Medicine) screening result of 3 or higher were found to be nearly two times more likely to recidivate than offenders with ASAM scores of Level 2c or lower.

Table 6: Results from the Stepwise Logistic Regression on the Odds of Post-Program Recidivism

Variables	*B*	*S.E.*	*Wald*	*Sig.*	*Exp(B)*
Yo-LSI Risk (High)	.656	.290	5.099	.024	1.927
Re-arrest (In program)	3.845	.409	88.351	.000	46.738
Drug Court Participation	-.594	.285	4.361	.037	.552
ASAM Level 3+	.648	.290	5.002	.025	1.911

Overall findings in this section of the report indicate a positive program effect with fewer juvenile drug court participants (44%) being arrested than the control group (52%) and, more importantly, program graduates (34%) being the least likely to re-offend overall. Results of the multiple regression analyses indicate that drug court participants are nearly two times less likely than the control group to be arrested in the 12 month post-program follow-up period. There is also a positive trend overtime, with improvements in both the rate of successful completion (graduation) as well as a reduction in new criminal activity.

Estimating Program Costs and Crime Reduction Benefits

The annualized economic costs of substance abuse in the United States exceeds $275 billion. Such costs occur because of lost earnings, losses in productivity, direct salary costs and indirect costs of organizations that deal with the repercussions of substance abuse including the criminal justice system, mental health organizations, hospitals and social service agencies, to name a few. Policy makers are interested in how diversion programs reduce costs. As a result, researchers have been pressed to identify the costs and benefits associated with drug court programs. Are drug courts effective in reducing crime? Are drug courts cost effective?

In comparison with the traditional probationary supervision of juvenile offenders, this drug court program is not only more intensive but also benefits the juveniles who participate and saves money as well. The total annualized operational costs for processing 182 juvenile drug court participants over the costs of processing a matched sample of juvenile offenders who are under traditional probationary supervision is estimated to have saved a net total of $29,026.00 in criminal justice related expenditures.

Methodology

A number of different approaches can be used to determine whether or not drug court programs are cost effective. The methodology employed here is modeled after that developed by Harrell, Cavanagh and Roman (1998) who developed a method for

calculating the costs and benefits of the Washington D.C. Superior Court Drug Intervention Program.

The cost estimates for this study are based on differences in use of resources between the participants in the juvenile drug court program and adolescents under traditional probationary supervision. Given the availability of information for calculating program and criminal justice related costs and the lack of data available for measuring many social and familial related benefits, it should be noted that the cost-benefit analysis presented here is conservatively estimated.

The costs of operating the juvenile drug court program for the 182 participants in the recidivism study covers the first 44 months of the programs operation. Program start-up costs ($313,500) were excluded from the analysis as our concern lies in the ongoing costs of daily operations. Per diem costs of the drug court program for each participant was $19.60. Total operating costs are based on the average daily cost times the number of days participants were enrolled in the drug court. The total annualized cost of the drug court's operations of $288,057 was calculated in the following manner:

Calculating Cost of Operations		
Total Program Cost	$1,987,442	
Start Up Costs	$313,500	
Total Operating Costs	$1,673,942 / Total Client Days 85,382	= $19.60/day
Less Cost of Active Days	$19.60 * 16,107 days	= $315,697
Less Cost of Excluded Cases	$19.60 * 15,410 days	= $302,036
Net Operating Costs	$1,673,942 - $315,697 - $302,036	= $1,056,209
Annualized Cost (44 Months)	$1,056,209 / 44*12	= $288,057

The analysis that follows is based on actual costs that are accrued by the public including: costs incurred by crime victims (e.g.: medical care, mental health care expenditure, lost productivity); costs that accrue to the public (e.g.: victim's services and compensation); and criminal justice costs including the costs of criminal court case processing, detention and probation.

Estimating the costs incurred by crime victims and the costs accrued to the general public are calculated by multiplying the number of crimes (incidents) times the cost associated with each criminal event. Estimates for incidence cost is derived from Miller, Cohen and Wierseman (2001) and Rajkumar and French (1996). Table 7 provides their estimates for the average cost per victimization and figures are adjusted for inflation through 2001[8]. Estimates for calculating new court costs are derived from Cohen, 1998 and adapted from Thompson's cost-benefit analysis of North Dakota's Juvenile Drug Court Program in December, 2002. A sample of these estimates are provided in Table 8.

[8] It should be noted that these are national estimates using data derived from the National Crime Victim Survey and the Federal Bureau of Investigation. Any bias that may result in the application of these estimates in Maine cannot, unfortunately, be estimated.

Table 7: Costs Associated with a Criminal Act[a]

Offense	*Cost of Incidence*	*Offense*	*Cost of Incidence*
Arson	$21,682	Forgery	$0
Assault	$1,851	Larceny/Theft	$431
Burglary	$1,324	Motor Vehicle Theft	$4,120
Drug Possession	$0	Murder	$432,055
Drug Trafficking	$0	Criminal Threatening	$756
Operating Under the Influence	$6,991	Sexual Assault	$5,978
Probation Violation	$0	Robbery	$2,704

[a] Adapted from Harrell, Cavanagh and Roman (1998)
Miller, Cohen and Wiersema (2001) estimates

Table 8: Costs Associated with Criminal Justice Case Processing (per charge)[b]

Offense	*Court Costs*	*Offense*	*Court Costs*
Operating Under the Influence	$1,161	Criminal Mischief	$417
Theft	$610	Motor Vehicle Theft	$1,675
Assault	$507	Resisting Arrest/Disorderly Conduct/Criminal Trespassing	$610
Burglary	$835	Drug Possession	$1,161

[b] Adapted from Thompson, 2002.
Cohen, 1998 estimates

Criminal justice related costs including the costs of juvenile detention and probation were derived from official records maintained by Maine's Department of Corrections, Division of Juvenile Services. Detention costs were estimated at $217 per day for fiscal year 2000, $274 per day for fiscal year 2001 and $345/day for fiscal years 2002-2003. The average daily cost for an offender on juvenile probation was based on a median probation officer salary of $42,714 (this includes fringe and retirement benefits). The same per diem cost was calculated for adult probation for those offenders committing crimes as adults. Per diem incarceration costs in adult jail facilities was estimated by taking the average from seven county jails (Cumberland, York, Androscoggin, Penobscot, Washington, Oxford and Franklin) which amounted to $77.10 a day per offender. Information pertaining to crimes committed as adults and related sentencing data was obtained from Maine's Department of Public Safety.

Table 9 provides the annualized cost comparisons between 182 juvenile offenders placed in the juvenile drug court program against the matched sample of 182 juvenile offenders who were under traditional probationary supervision.. Findings indicate that the program has produced a net savings of $29,026.00. These savings were derived from three primary indicators: reduced detention/jail costs ($257,996.00), reduced costs for criminal case processing ($12,833.00) and an overall savings in crime reduction ($46,237).

Table 9: Annualized Operational Costs and Crime Reduction Benefits of Maine's Juvenile Drug Court

	Traditional Adjudication N=182	*Juvenile Drug Court N=182*	*Difference*
Total Operating Costs	0	$288,057	($288,057)
New Court Costs	$56,775	$43,942	$12,833
Detention Costs (including sanctions)	$705,059	$447,063	$257,996
New Probationary Costs	$8,190	$8,173	$16
Cost of New Criminal Activity	$173,566	$127,328	$46,237
Total	$943,599	$914,563	**$29,026**

Conclusions

The current study marks ground-breaking developments in research on juvenile drug courts. It is an examination of six juvenile drug courts that comprise Maine's Juvenile Drug Court system and compares twelve month post-program recidivism rates of 182 juvenile drug court participants who either completed or were expelled from the program with a matched control group of 182 drug involved juvenile offenders who did not participate, nor were referred to, the juvenile drug court program. The study shows that Maine's Juvenile Drug Court program is reducing crime among Maine's substance abusing adolescent offenders.

Overall results of the evaluation can be summarized as follows: 1) the rate of successful program completion is higher for Maine's statewide juvenile drug treatment court program than national averages; 2) juvenile drug court participants had lower rates of recidivism than the control group and drug court graduates were the least likely to re-offend overall; and, 3) the total annualized operational costs for processing 182 juvenile drug court participants over the costs of processing a matched sample of juvenile offenders who are under traditional probationary supervision is estimated to have saved a net total of $29,026.00 in criminal justice related expenditures.

The analysis revealed that there is not only a positive program effect with fewer juvenile drug court participants being re-arrested, but important reductions in recidivism have occurred over time. The analysis also examined how variations in post-program recidivism are related to various demographic characteristics. Results indicate that offenders who exhibit a "high" risk of re-offending, substantial need for substance abuse treatment services and who committed offenses during program participation were all

statistically more likely to recidivate in the 12 month post-program follow-up. Most importantly, drug court participation, as a control variable, was also a significant predictor. Drug court participants were 1.8 times less likely to recidivate during the 12 month post-program follow-up than a matched group of adolescent offenders under traditional probationary supervision.

Maine's juvenile drug court program inspires a collaborative effort to assemble and direct a variety of resources from numerous agencies to achieve mutual goals. They are designed to overcome the boundaries of historically independent systems (Hartmann and Rhineberger, 2002). As documented throughout this report, the drug court experience can be an effective intervention to reduce recidivism among substance abusing offenders. However, the drug court program is not a magic bullet. Many drug court participants fail. In this study, less than 40% successfully completed the program and graduated. Within12 months of program discharge, 49% of the expelled participants recidivated compared to 34% of program graduates. Since the findings of this study have not identified theoretical flaws in the drug court model, continued enthusiasm for drug courts is warranted. The overall conclusion that the drug court program was a success must, however, be tempered by the fact that it does not appear that mere participation in the drug court experience will reduce crime. Rather, it is the successful completion of the program (graduates) who are most likely to benefit. The majority of participants who were expelled from the drug court program fared no better than the control group in terms of post-program recidivism outcomes.

Limitations

Several limitations of this study deserve recognition because they may have important impacts on the interpretation of outcomes. First, the outcomes presented in this study do not necessarily reflect present day circumstances of the program. This was necessitated by the research design measuring rearrest rates over a twelve month post-program follow-up. The analysis is based upon a total of 182 participants who either graduated or were expelled from the drug court program at least 15 months prior to the publication of this report. Hence, the analyses are skewed towards outcomes occurring more than a year ago. In an ideal research design information about the initial year of program operations would be excluded to account for issues that often arise during program implementation. Second, since there are an insufficient number of cases to conduct a site by site assessment of outcomes, it is not possible to determine whether some drug court sites have better outcomes than others. Third, although the study did employ a matched pair design reducing the likelihood of pre-existing group differences, there is a likelihood that the groups will differ on many unmeasured characteristics such as motivation, social support, intelligence or any number of uncontrolled factors that could influence differences in outcomes. Lastly, the data used in this evaluation is limited to data derived from official records. Hence, we did not examine how clients perceive their drug court experience or how they believe the drug court has affected their lives. Introducing this added dimension to the research as well as a longer follow-up period for measuring recidivism (24 months) is plainly, the next order of business.

Appendix A

Results of the Bi-variate Analysis: Factors Associated with Program Completion and Termination

Appendix A of the report presents findings about factors related to successful completion of the juvenile drug court program. The analysis is presented in two stages. The first stage involves simple bivariate comparisons and tests for differences of means between participant characteristics and core components of the drug court program on discharge outcomes. The dependent variable is rate of program graduation (0-100%). T-tests are performed on all dichotomous variables and analysis of variance is analyzed for all continuous variables and variables involving multiple categories.

This section examines the relationship between several general characteristics of participants on graduation outcomes. As shown in Table 1, the majority of participants can be characterized as moderate to high risk, white males with fairly severe substance abuse histories (see columns labeled *%*). The relationship between participant characteristics and successful program completion is explicated in the columns labeled *%G*. For example, more females (45%) than males (33%) tend to graduate from the juvenile drug court program as do first-time offenders (48%) versus repeat offenders (33%). However, these relationships merely specify trends and are not statistically significant. Overall, there is only one significant characteristic among these participants which is related to successful completion of the drug court program. Participants identified as "Low Risk" from the Yo-LSI are significantly more likely to graduate from the juvenile drug court than participants demonstrating either a "Moderate" or "High" risk of re-offending[1].

Table 11 examines the relationship between various core components of the drug court model on program completion outcomes. Findings in Table 11 indicate there are few significant differences between graduates and expelled participants except across measures of program participation length, positive drug use and utilization of specific types of ancillary services. On average, program graduates had a lower rate of positive drug tests (11%) compared to expelled participants (30%). Utilization of ancillary services was also more frequent among program graduates particularly with respect to crisis intervention services, HIV testing and "other" ancillary services including social services, mentoring programs, housing, employment and financial services. And, as expected, program graduates participated in the drug court program nearly twice as long as those who were expelled.

[1] The Youthful Offender Level of Service Inventory (Yo-LSI) is a screening tool used by the Maine Department of Corrections, Division of Juvenile Services to measure an adolescent's risk of re-offending.

Table 10: Participant Characteristics by Discharge Status

Demographics	*%*	*N*	*% G*	**Demographics**	*%*	*N*	*% G*
Gender				Race			
Female	16	29	45	White	95	173	35
Male	84	153	33	Non-White	5	9	44
Total	100	182	35	Total	100	182	35
Employed at Admission				In School at Admission			
Yes	36	66	42	Yes	73	133	39
No	64	116	31	No	27	49	25
Total	100	182	35	Total	100	182	35
Drug of Choice				Living with Relatives			
Alcohol	23	42	41	Yes	87	159	41
Marijuana	63	114	33	No	13	23	36
Heroin	8	14	43	Total	100	182	35
Other	6	12	25				
Total	100	182	35				
ASAM Level				Yo-LSI Risk			
Level 3 and Higher	32	59	32	Low***	20	37	62
Level II (a & b)	29	53	30	Moderate	36	66	35
Level II c	11	20	30	High	44	79	23
Level II	20	36	42	Total	100	182	35
Level I and Below	8	14	57				
Total	100	182	35				
JASAE Alcohol Score				JASAE Drug Score			
1) 1-2	13	24	46	1) 1-2	4	8	50
2) 3	18	32	41	2) 3	4	7	71
3) 4	41	74	35	3) 4	29	52	37
4) 5	28	52	27	4) 5	63	115	31
Total	100	182	35	Total	100	182	35
Prior Tx Experience				Smoke Tobacco			
Yes	54	99	34	1) Yes	70	127	29
No	46	83	36	2) No	30	55	38
Total	100	182	35	Total	100	182	35
DC Arrest Felony				Prior Arrest			
1) Yes	35	64	35	Yes	83	151	33
2) No	65	118	36	No	17	31	48
Total	100	182	35	Total	100	182	35

***p<.001, **p<.01, *p<.05; two-tailed tests
ns=Not Significant G=Graduate

Table 11: Program Information by Discharge Status

	Graduated (n=64)	*Expelled (n=118)*	*Total (n=182)*
Number of Treatment Sessions Attended per Week			
Mean	1.3	1.3	1.3
Median	0.93	0.88	0.88
Range	0 – 7.0	0.13 – 7.0	0 – 7.0
Types of Tx Sessions Attended (Mean % of Total)			
Individual	58%	51%	54%
Group	23%	28%	26%
Family	9%	6%	7%
IOP	9%	8%	8%
Residential	2%	3%	3%
Weekly Drug Tests			
Mean	0.76	0.89	0.84
Median	0.78	0.85	0.81
Range	0.11 – 2.11	0 – 3.80	0 – 3.80
Percent Positive Drug Tests***			
Mean	0.11	0.30	0.23
Program Length (days) ***			
Mean	419	230	296
In Program Arrest			
% Yes	25	36	32
% Utilize Ancillary Services	86	76	79
% Utilize Multiple Ancillary Services	74	70	71
Types of Ancillary Services			
Academic	14	13	13
Crisis Intervention*	24	10	15
Drug Education	68	63	65
HIV Risk*	22	10	14
Legal	12	7	9
Medical	16	10	11
Mental Health	20	18	19
Transportation	52	53	52
Other***	62	28	39

***p<.001, **p<.01, *p<.05; two-tailed tests

*Other ancillary services include: Aversion Therapy, Acupuncture, Social Services, Mentoring Programs, Housing, Employment and Financial Services

Appendix B

Post-Program Offense Types and Class

Table 5: Experimental vs. Control – Post-Program Offense Types and Class

	Control		*Experimental*		*Graduate*		*Expelled*		*Total*	
Offense Types and Class	N	%	N	%	N	%	N	%	N	%
Robbery (A)	1	1.1	2	2.5			2	3.4	3	1.7
Assault (C)			1	1.3			1	1.7	1	0.6
Assault on an Officer (C)	1	1.1							1	0.6
Assault (D)	12	12.8	12	15.0	7	31.8	5	8.6	24	13.8
Criminal Threatening (C)			2	2.5			2	3.4	2	1.1
Criminal Threatening (D)	1	1.1	2	2.5	1	4.5	1	1.7	3	1.7
Terrorizing (C)	1	1.1							1	0.6
Terrorizing (D)	3	3.2							3	1.7
Unlawful Sexual Contact (C)	1	1.1							1	0.6
Possessing Sexually Explicit Material (D)	1	1.1							1	0.6
Burglary (B)	11	11.7	2	2.5			2	3.4	13	7.5
Burglary of Motor Vehicle (C)	2	2.1	1	1.3			1	1.7	3	1.7
Theft (C)			1	1.3			1	1.7	1	0.6
Theft (D)	3	3.2	3	3.8			3	5.2	6	3.4
Theft (E)	10	10.6	10	12.5	3	13.6	7	12.1	20	11.5
Theft by Deception (C)			1	1.3	1	4.5			1	0.6
Theft by Deception (D)	1	1.1							1	0.6
Conspiracy to Commit Theft by Deception (C)			1	1.3			1	1.7	1	0.6
Theft of Services (D)	1	1.1							1	0.6
Receiving Stolen Property (D)			2	2.5			2	3.4	2	1.1
Unauthorized Use of Property (D)	1	1.1	1	1.3			1	1.7	2	1.1
Criminal Trespassing (D)	1	1.1	4	5.0			4	6.9	5	2.9
Aggravated Criminal Mischief (C)			1	1.3			1	1.7	1	0.6
Criminal Mischief (D)	7	7.4	5	6.3	2	9.1	3	5.2	12	6.9
Possession of Burglar's Tools (E)	1	1.1							1	0.6
Unlawful Trafficking in Scheduled Drugs (C)			1	1.3	1	4.5			1	0.6
Unlawful Trafficking in Scheduled Drugs (D)			2	2.5			2	3.4	2	1.1
Unlawful Possession of Scheduled Drugs (C)			1	1.3			1	1.7	1	0.6
Unlawful Possession of Scheduled Drugs (D)	7	7.4	2	2.5			2	3.4	9	5.2
Unlawful Possession of Scheduled Drugs (E)	1	1.1							1	0.6
Attempted Acquiring Drugs by Deception (D)	1	1.1							1	0.6
Unlawful Possession of Hypodermics (D)			1	1.3			1	1.7	1	0.6
Furnishing Alcohol to Restricted Persons (D)	1	1.1	1	1.3	1	4.5			2	1.1
Possession of Alcohol by a Minor (E)	9	9.6	4	5.0	1	4.5	3	5.2	13	7.5
OUI (C)			1	1.3			1	1.7	1	0.6
OUI (D)	4	4.3	4	5.0	2	9.1	2	3.4	8	4.6
OAS (E)	1	1.1							1	0.6
Perjury (C)	1	1.1							1	0.6
Unsworn Falsification (D)			1	1.3	1	4.5			1	0.6
Forgery (D)	2	2.1							2	1.1
Misuse of Credit Information (D)	1	1.1							1	0.6
Failure to Give Correct Info. to an Officer (E)	1	1.1							1	0.6
Escape (C)	2	2.1	1	1.3			1	1.7	3	1.7
Escape (D)	1	1.1							1	0.6
Refusing to Submit to Arrest or Detention (D)			1	1.3			1	1.7	1	0.6
Hindering Apprehension (E)			1	1.3			1	1.7	1	0.6
Violation of Condition of Release (E)			4	5.0	1	4.5	3	5.2	4	2.3
Violation of PFA (D)	1	1.1							1	0.6
Disorderly Conduct (D)	2	2.1	4	5.0	1	4.5	3	5.2	6	3.4
TOTAL	94	100%	80	100%	22	100%	58	100%	174	100%